Does My Patient Have a Penicillin (PCN) Allergy?

Developed by The Johns Hopkins Hospital Department of Antimicrobial Stewardship

START HERE ➔

Have you ever had a reaction to PCN or PCN derivatives (e.g., amoxicillin, ampicillin, amoxicillin-clavulanate)?

YES

Did the reaction involve at least two of the following within 24 hours of first dose of antibiotic?

- Face swelling (throat, tongue, lips, eyes bilaterally)
- Wheezing and/or severe difficulty breathing
- Urticaria (hives)*: Raised itchy bumps (red or skin-colored); the center of a red hive turns white upon pressure
- Low blood pressure

YES

NO/UNKNOWN

Did you have a PCN skin test or a PCN/amoxicillin challenge, and were you told you were no longer allergic?

NO

Remove/do not enter PCN allergy or communicate with prescriber

YES

Document Stevens-Johnson-like syndrome

NO

Document non-urticarial rash

Request Allergy & Immunology Consult if antibiotic needed

YES

Maculopapular rash that appeared ≥ 2 days after antibiotic administration*

NO

Rash described as peeling/blistering AND associated with inflammation/blistering in the mouth, eyes or genitals*

Other reactions

YES

Document non-urticarial rash

NO

Document hives*

No reaction occurred, remove/do not enter allergy or communicate with prescriber

No reaction occurred, document historical reaction to PCN, patient able to take cephalosporins, and document any cephalosporins given

* See behind for examples of skin reactions

### β-lactams (most common)

#### PENICILLINS
- **Oral:**
  1. Dicloxacillin
  2. Penicillin
- **Intravenous:**
  3. Nafcillin
  4. Oxacillin
  5. Penicillin
  6. Piperacillin-tazobactam

#### AMINOPENICILLINS
- **Oral:**
  1. Amoxicillin
  2. Amoxicillin-clavulanate
- **Intravenous:**
  3. Ampicillin
  4. Ampicillin-sulbactam

#### CEPHALOSPORINS
- **Oral:**
  1. Cefaclor
  2. Cefadroxil
  3. Cefdinir
  4. Cefpodoxime
  5. Cephalexin
- **Intravenous:**
  6. Cefazolin
  7. Cefepime
  8. Cefotaxime
  9. Cefotetan
  10. Cefoxitin
  11. Ceftaroline
  12. Ceftazidime, Ceftaz-avibactam
  13. Ceftolozane-tazobactam
  14. Ceftriaxone

#### CARBAPENEMS
- **Intravenous:**
  1. Ertapenem
  2. Imipenem
  3. Meropenem

### MOST COMMON SEVERE REACTIONS INVOLVING THE SKIN*

#### Anaphylaxis
- Bilateral facial swelling
- Wheezing and/or severe difficulty breathing
- Hives
- Occurs within 6 hours of antibiotic administration

#### Exfoliative dermatitis
- Skin peeling or blistering with mucosal (eyes, mouth, genital) involvement
- Develops after several days of antibiotics
- Examples: Stevens-Johnson syndrome, TEN
- Requires hospitalization

#### Drug rash eosinophilia and systemic symptoms (DRESS syndrome)
- Fever, rash
- Eosinophilia, liver or kidney involvement
- Occurs 2—6 weeks after exposure

#### NON-SEVERE SKIN REACTION

**Non-urticarial maculopapular rash**
- Tiny red dots covering a large area of the body, may feel rough to the touch
- Appears after 2—3 days of antibiotic administration
- Can be treated through, does not contraindicate future antibiotic use
- May not recur with future drug administration

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*The patient might report other less common skin reactions. Please document as much detail as possible.*